



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/343,334 | 06/30/1999 | GREGG M. SKLEDAR | T-5586CIP | 7812 |
| 7590 | 09/20/2004 | | EXAMINER | |
| Raymund F. Eich Williams, Morgan & Amerson 7676 Hillmont, Suite 250 Houston, TX 77040 | | | JOHNSON, JERRY D | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1764 | |

DATE MAILED: 09/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/343,334

Applicant(s)

SKLEDAR ET AL.

Examiner

Jerry D. Johnson

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

Art Unit: 1764

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 14-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Sauer.

Sauer, U.S. Patent 3,113, 167, teaches a method of preparing high viscosity synthetic lubricants from alpha olefins and more particularly, the invention relates to a method of preparing high viscosity synthetic lubricating oils by polymerizing alpha-olefins (column 1, lines 10-17). These polymers without further treatment are useful as lubricants. However, since the polymers as produced are partially unsaturated, i.e., in general about 50 percent of the molecules are unsaturated, it is preferable that the polymers be hydrogenated to remove the unsaturation and consequently increase the oxidation inhibitor susceptibility of the oil (column 5, lines 64-71). The hydrogenation of the polymers may be carried out according to conventional procedures and with conventional hydrogenation catalysts (column 6, lines 6-8). In general, reaction times of about 8 hours have been used to insure complete hydrogenation of the polymer (column 6, lines 13-15).

Given that Sauer ensures "complete hydrogenation," it reasonably appears that Sauer's completely hydrogenated polyalphaolefin would be the same as or an obvious variation of the instantly claimed polyalphaolefin composition. Accordingly, Applicants' claims if not anticipated by 35 U.S.C. § 102, would be obvious under 35 U.S.C. § 103.

Claims 14-24 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Cupples et al.

Art Unit: 1764

Cupples et al., U.S Patent 4,282,392, teach a method for preparing a polyalphaolefin oligomer lubricant comprising the step of hydrogenation a liquid oligomer (column 1, lines 11-16). In column 4, lines 4-12 teach

[i]n our hydrogenation procedure, liquid oligomer at an elevated temperature is flowed or trickled over the surface of particles or pellets of the catalyst packed into a column in the presence of hydrogen at elevated pressure. This procedure involves an exceptionally intimate contact of the total liquid oligomer with the catalyst for a substantial period of time, since substantially all of the oligomer is present as a thin liquid film on the catalyst as the oligomer passes through the column.

Because Cupples et al. teach a hydrogenation step that involves “intimate contact of the total liquid oligomer with the catalyst for a substantial period of time,” it reasonably appears that the hydrogenated polyalphaolefin of Cupples et al. would be the same as or an obvious variation of the instantly claimed polyalphaolefin composition. Accordingly, Applicants’ claims if not anticipated by 35 U.S.C. § 102, would be obvious under 35 U.S.C. § 103.

Claims 14-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al.

Wu et al., U.S. Patent 5,276,227, teach liquid hydrocarbon lubricant viscosity index improver compositions having higher shear stability (column 3, lines 10-12). Column 3, lines 47-57 of Wu et al. teach

unless otherwise stated, all references to properties of oligomers or lubricants of the present invention refer as well to products of low unsaturation, as characterized by low bromine number usually lower than 4. If the product has high number-average molecular weight (4,000), then no hydrogenation is needed. If the product has number average molecular weight much lower than 4,000, then hydrogenation is carried out in keeping with the practice well known to those skilled in the art of lubricant production.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to follow the above teachings and arrive at a polyalphaolefin lubricant composition having the instantly claimed bromine index.

Art Unit: 1764

Applicant's arguments filed June 7, 2004 have been fully considered but they are not persuasive.

Applicants argue

[g]iven the shortcomings of ASTM D 2710 as applied to polyalphaolefins, Sauer's teaching of "complete hydrogenation" cannot be taken as absolutely true. First Sauer does not provide any method or value for is determination of complete hydrogenation. Second, even if Sauer measured what he took for "complete hydrogenation" of the polyalphaolefin, the skilled artisan can only conclude this was "complete hydrogenation" *within the limits of the hydrogenation or saturation assay Sauer used.* (Remarks, page 6).

Applicants' argument lacks merit.

There is no evidence of record that Sauer's polyalphaolefins, as argued by applicants, and contrary to the express teachings of Sauer, not completely hydrogenated. Attorneys arguments unsupported by factual evidence do not take the place of objective evidence of unobviousness.

In re Lindner, 173 USPQ 356.

Applicants argue

Cupples might have produced a polyalphaolefin having a low unmodified ASTM D 2710 Bromine Index value, but there is no teaching or suggestion to indicate Cupples' polyalphaolefin would have a low modified Bromine Index value, as presently claimed. This is supported by the statement in the Hope Declaration, paragraph 8, that the reduction to practice of the present invention represented process modifications to the techniques taught by Cupples. Therefore, Cupples does not teach or suggest hydrogenation to the extent recited by the present claims, and this reference fails to anticipate them or render them obvious. (Remarks, page 7).

Applicants' argument lacks merit.

There is no evidence of record that the process of Cupples et al. cannot produce a polyalphaolefin having the claimed low modified Bromine Index value. Further, to quote page 10 of the Board Decision mailed August 22, 2003: "[i]t has long been known that hydrogenation

Art Unit: 1764

to achieve [sic, obtain] a PAO which is predominantly saturated achieves [sic, provides] a more desirable product, [i.e.,] one that is more stable to oxidation and heat. (Specification, page 2, lines 8-10.) Accordingly, in the case where the distilled oligomer of Cupples was not hydrogenated to completion, one of ordinary skill would have found it *prima facie* obvious to further hydrogenate the distilled product in order to improve the stability of the product to oxidation and heat.”

Applicants argue

Wu teaches hydrogenation of polyalphaolefins to a Bromine Number (not Index) “usually lower than 4 [g Br per 100 g PAO].” Given the state of the art prior to the present invention, there is no teaching or suggestion to indicate Wu’s polyalphaolefin would have a low modified Bromine Index value. Therefore, Wu does not teach or suggest hydrogenation to the extent recited by the present claims, and this reference fails to anticipate them or render them obvious. (Remarks, page 7).

Applicants’ argument lacks merit.

Polyalphaolefins having Bromine Numbers less than 4 as taught by Wu include polyalphaolefins having Bromine Index values of the claims, i.e., “Bromine Index of less than 200 mg Bromine per 100 gram sample of polyalphaolefin, wherein the Bromine Index is measured according to ASTM D2710, modified by the use of isopropanol as an additional solvent.”

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

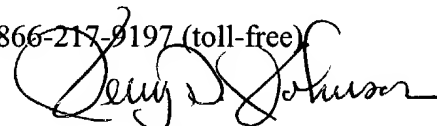
Art Unit: 1764

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry D. Johnson whose telephone number is (571) 272-1448. The examiner can normally be reached on 6:00-3:30, M-F, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jerry D. Johnson
Primary Examiner
Art Unit 1764

jdj